

REMARKS

This is in response to the final Office Action mailed on April 9, 2007. In the Office Action, claims 1-10, 13, 15, 17 and 19 were pending and were rejected. With this response, all claims are unchanged. For the reasons that follow, reconsideration and allowance are respectfully requested.

On page 3, claims 1-5, 7, 8 and 10 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hammond (U.S. Pub. No. 2003/0088547) in view of Even (U.S. Patent No. 6,393,399). For reasons that will be described in detail below, it is respectfully submitted that all of the rejections in the present case should be withdrawn as the Office Action has not established any *prima facie* case of obviousness.

First and foremost, it is respectfully pointed out that the proposed combination of Hammond and Even fails to achieve the subject matter of independent claim 1. Claim 1 requires the concatenation of a plurality of characters within an input string to form at least one additional term. Further, as claimed, the input string and the at least one additional term are provided to the search process.

Hammond discloses a method of augmenting a search query to include additional terms from a database of synonyms. As stated in the Office Action, Hammond fails to teach or suggest concatenating a plurality of characters. The Examiner instead points to Even as the alleged source of the missing elements. In Even; however, an input is received from a speech recognition system and there is an identification of a phrase in the input that should be a compound word. Even teaches replacing the phrase in the speech-recognized text with the compound word. Even does not teach or suggest concatenating a plurality of characters to form an additional term. Further, neither Hammond nor Even teach or suggest providing an input string and a concatenation of the input string to a search process.

Further, Applicant respectfully urges the Examiner to reject the notion that it would be obvious to include a compound word, produced in accordance with the transformation process described in Even, in a list of search term synonyms as described in Hammond. For at least the reasons described below, there is no apparent reason why a person of ordinary skill in the relevant

field would be prompted to combine these teachings.

Applicant would first like to emphasize that the Hammond and Even references come from substantially different and distinct fields of art. One reference pertains to information retrieval over a network. In complete contrast, the other reference pertains to methods for improving speech recognition. Under these circumstances, the question arises - why would one designing a search system be motivated to incorporate compound words created within a speech recognition system into a list of query term synonyms?

In the Office Action, the discussion of Hammond and Even merely asserts conclusory statements regarding the proposed combination of elements and does not articulate any reasonable rational to support the legal conclusion of obviousness. On page 4, the Office Action broadly asserts that it would have been obvious to one of ordinary skill in the art to utilize the compounder process of Even to create the unentered terms of Hammond. There is no reasonable explanation as to why such a combination would be obvious. One is left to conclude that there is, in fact, no reasonable rationale other than an improper application of hindsight thinking in light of the current Applicant's invention.

For at least the above mentioned reasons, it is respectfully submitted that independent claim 1 is in allowable form. Claims 2-5, 7, 8 and 10 are dependent upon independent claim 1 and are believed to be in allowable form at least for the same reasons discussed above in relation to that affiliated independent claim.

Claim 6 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Hammond in view of Even, and further in view of Franz (U.S. Patent No. 7,027,987). Claim 9 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Hammond and Even, and further in view of the article "College Algebra Tutorial 57: Combinations" by WTAMU (hereafter "WTAMU").

It is first submitted that claims 6 and 9 are allowable at least based on the same reasons discussed above in relation to their affiliated independent claim 1. Additionally, it is believed that at least claim 9 recites features that are also neither taught nor suggest by the cited references. Claim 9 recites "wherein the string includes N words, and wherein $(N-1)(N/2)$ additional search

terms are provided to the search process based upon word adjacency." The cited WTAMU reference discloses a formula for determining the number of possible combinations for grouping objects where n is the number of objects to be selected from and where r is the number of objects in each group (i.e., combination of n objects taken r at a time). However, it is submitted that it is unreasonable to assume that the equation associated with the WTAMU reference would be applied, without further insight that is missing from the record, so as to provide search terms to a search process based upon word adjacency. In fact, the WTAMU reference states that the cited formula is an indication of the number of possible combinations that can be taken from a group of n objects without regard to order (see WTAMU, "Tutorial"). Applicant again encourages the Examiner to review Applicant's specification at page 14. As is set forth in this portion of the specification, an algorithmic approach to an n -word search string includes generating all two-word combinations based on word adjacency. Then, all combinations are created, and the process is continued until a final n -word combination is created. The specification indicates that, "a method of generating search words listed above will generate an additional $[n-1][n/2]$ search words for a given n -word search string input."

Further, it is submitted that the rejection of claim 9 fails to explicitly identify the analysis supporting the rejection of claim 9 under 35 U.S.C. § 103(a). There is no assertion of any reason or motivation that would have prompted a person of ordinary skill in the relevant field to combine the prior art elements in the proposed manner. Applicant further submits that one of ordinary skill in the art would not combine the formula described by the WTAMU reference for grouping objects with the disclosure of Hammond and Even as neither Hammond nor Even disclose grouping words without regard to order as required by the formula of WTAMU. For instance, Hammond discloses adding additional search terms to a search query from a database of synonyms. The search query expansion of Hammond does not group words in the search query to form additional terms. Further, Even discloses replacing recognized text with a compound word by concatenating a series of consecutive words (i.e., "Wahl Kampf Geschichten", see col. 4, ln. 19-27). Like Hammond, Even also does not teach or suggest grouping words independent of order as described by the formula of the WTAMU reference. For at least these reasons, Applicant fails to

understand why or how one of ordinary skill in the art would combine the teachings of Hammond and Even with the formula disclosed by WTAMU.

Further yet, it is noted that the formula disclosed by WTAMU only calculates groupings of objects having the same number of objects. For instance, setting r equal to 2 would only obtain pairs of objects. One skilled in the art would only set the value r equal to 2 if only two-word combinations were desired. In distinct contrast, the method described on page 14 of Applicant's specification includes generating a number of two-word combinations, three-word combinations, etc. It is respectfully submitted that the fact that the results of the two combinations (that the combinations when r is set to 2 and the formula set forth in dependent claim 9) is irrelevant. Claim 9 specifically recites additional search terms being provided based on word adjacency. Certainly, if the various combinations that could be conceived when r is set to 2 were derived, it would become apparent that word adjacency could not be maintained. Accordingly, Applicant respectfully submits that one skilled in the art would not set $r = 2$ because at least some combinations include more than two words. The WTAMU article simply fails to teach or suggest grouping words and maintaining word adjacency. Accordingly, Applicant respectfully submits that dependent claim 9 is allowable over the cited references considered independently or in combination.

On page 9, claims 13, 15 and 19 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Crooks et al. (U.S. Pub. No. 2004/0078366, hereinafter "Crooks") in view of Hammond. Independent claim 13 recites "removing the at least one hyphen to form at least one additional term." Independent claim 15 recites "replacing the hyphen with a space to form at least one additional term." Further, independent claim 19 recites "generating at least one additional term by performing an operation selected from the group consisting of removing a space between the plurality of terms, removing a hyphen between the plurality of terms, replacing a space between the plurality of terms with a hyphen, and replacing a hyphen between the plurality of terms with a space."

First, it is respectfully pointed out that the proposed combination of Crooks and Hammond fails to achieve the subject matter of claims 13, 15, and 19. As stated in the Office

Action, Hammond fails to teach or suggest the above-mentioned features of claims 13, 15, and 19. The Office Action instead points to Crooks as the alleged source of these features. Crooks discloses receiving an input string including a hyphenated term (i.e., "Z-pac") and transforming the input string by removing the hyphen (i.e., Zpac). To illustrate, paragraph [0024], ln. 48-50 of Crooks states that "if the input string contained the alpha string 'Z-pac', the hyphen would be eliminated and the search string changed to 'Zpac'" (emphasis added). Further, at paragraph [0024], ln. 50-54 Crooks states that "if the input search string was 'vibra-tabs', the process at step 68 would change it to 'vibra tabs'" (emphasis added). Thus, it can clearly be seen that Crooks, as well as Hammond, does not teach or suggest removing or replacing a hyphen to create an additional term to be provided to a search process. It is further submitted that the proposed combination of Crooks and Hammond would, at most, achieve a system that replaces hyphenated terms in a search query. The proposed combination would not teach or suggest providing an input string and an additional term formed by removing or replacing a hyphen in the input string.

Further, Applicant respectfully urges the Examiner to reject the notion that it would be obvious to include a transformation of a health care order entry, produced in accordance with the disclosure of Crooks, in a list of search term synonyms as described in Hammond. For at least the reasons described below, there is no apparent reason why a person of ordinary skill in the relevant field would be prompted to combine these teachings.

Applicant would first like to emphasize that the Hammond and Crooks references come from substantially different and distinct fields of art. Hammond relates to augmentation of network search queries while Crooks discloses manipulation of health care order entries by replacing terms. It is respectfully submitted that there is no showing as to why the teaching of Hammond would be obvious to combine with the teaching of Crooks to achieve the methods recited in claims 13, 15, and 19.

In the Office Action, the discussion of Hammond and Crooks merely asserts conclusory statements regarding the proposed combination of elements and does not articulate any reasonable rational to support the legal conclusion of obviousness. There is no reasonable explanation as to why such a combination would be obvious. One is left to conclude that there is,

in fact, no reasonable rationale other than an improper application of hindsight thinking in light of the current Applicant's invention.

For at least the above-mentioned reasons, it is submitted that independent claims 13, 15 and 19 are allowable over the cited references.

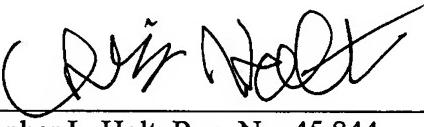
On page 14, claim 17 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Franz in view of Bates et al. (U.S. Pub. No. 2004/0205672, hereinafter “Bates”), and further in view of Hammond. As stated in the Office Action, Hammond fails to disclose replacing a hyphen with a space to form at least one additional term. The Office Action instead points to Bates as the alleged source of this feature. The cited sections of Bates (paragraphs [0030], [0095], and FIG. 9, item 220) disclose a method of finding variants of a term (i.e., different spellings, punctuation, capitalization, meaning, etc.). The method enables a user to search a list of variants to determine an acceptable spelling, for instance, of a word. The variants are results that are returned to the user based on the user request and are not utilized to perform a search. Thus, Bates does not teach or suggest forming an additional search term to be provided to a searching process. For at least this reason, it is submitted that claim 17 is neither taught nor suggested by the cited references and is in allowable form.

In view of the foregoing, it is respectfully submitted that all pending claims, namely claims 1-10, 13, 15, 17 and 19, are in condition for allowance. Reconsideration and allowance are respectfully requested.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

WESTMAN, CHAMPLIN & KELLY, P.A.

By: 
Christopher L. Holt, Reg. No. 45,844
900 Second Avenue South, Suite 1400
Minneapolis, Minnesota 55402-3319
Phone: (612) 334-3222 Fax: (612) 334-3312

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